CLAIMS

What is claimed is:

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1. A method for evaluating the operation of an alternator driven by a motor, comprising the steps of:

detecting a motor speed or an alternator speed;

coupling a load to the alternator upon the motor speed or the alternator speed reaching a predetermined level; and

detecting characteristics of an alternator output signal representative of an alternator characteristic after the has been coupled to the alternator for a first predetermined period of time.

2. The method of claim 1, wherein the motor is the engine of a vehicle.

3, the method of claim 1, wherein the load is a Nichrome coil.

4. A method for evaluating the operation of an alternator, comprising the steps of:

coupling a load to the alternator; and

detecting characteristics of an alternator output signal representative of an output of the alternator only after the load has been coupled to the alternator for a first predetermined period of time.

5. The method of claim 4, further including a step of decoupling the load from the alternator after the load has been coupled to the alternator for a second predetermined period of time greater than the first.

6. A system for evaluating the operation of an alternator driven by a motor, comprising:

a load;

a terminal for receiving an alternator output signal representative of an alternator characteristic;

a sensor for generating a speed signal representative of an engine speed or an alternator speed;

a switch device for selectively coupling the load to the alternator;

a controller for determining characteristics of the alternator output signal and for controlling operation of the switch device;

wherein, in response to the speed signal indicating the engine speed or the alternator speed reaching a predetermined level, the controller generating a first switch operation signal to control the switch device to couple the load to the alternator, and

the controller determines characteristics of the alternator output signal based on parameters collected after the load has been coupled to the alternator for a first predetermined period of time.

7. The system of claim 6, wherein the load is a Nichrome coil.

8. The system of claim 6, further comprising a cooling device for dissipating the heat generated by the load.

9. The system of claim 8, wherein the cooling device is a fan.

10. The system of claim 6, wherein the system is contained within a housing of the size suitable to be hand held.

11. The system of claim 6, wherein the load is constructed to draw at least 50 amperes of current from the alternator.

12. The system of claim 6, wherein the controller generates a second switch operation signal to control the switch device to decouple the load from the alternator after the load has been coupled to the alternator for a second predetermined period of time.

13. A system for evaluating the operation of an alternator, comprising:

a load;

a terminal for receiving an alternator output signal representative of an alternator characteristic;

a switch device for selectively coupling the load to the alternator; and

a controller for determining characteristics of the alternator output signal and for generating a first switch operation signal to control the switch device to couple the load to the alternator; and

wherein the controller determines the characteristics of the alternator output signal based on parameters collected only after the load has been coupled to the alternator for a first predetermined period of time.

14. The system of claim 13, wherein the controller generates a second switch operation signal to control the switch device to decouple the load from the alternator after the load has been coupled to the alternator for a second predetermined period of time.

15. The system of claim 13, wherein the alternator is used in an automotive vehicle to charge a battery.

16. A method for evaluating the operation of an alternator, comprising the steps of:

coupling a load to the alternator; and

evaluating the operation of the alternator based on parameters collected after the load being coupled to the alternator for a first predetermined period of time.

17. A housing of an alternator tester, comprising:

a first compartment for receiving a circuit board;

a second compartment for housing a load;

an air inlet disposed on one side of the second compartment;

a fan forming an air outlet on the other side of the second compartment; and

wherein the load, the air inlet and the fan are substantially in line,

the air inlet and the fan form an air flow path, when the fan is in operation, the heat generated by the load is dissipated to the surrounding air and drawn out through the air outlet, and the housing has a size suitable to be held in one's hand.

18. The housing of claim 17, wherein the tester evaluates the operation of an alternator in the steps of:
coupling the load to the alternator through a cord connected to the tester; and
detecting characteristics of an alternator output signal representative of an alternator characteristic only after the load has been coupled to the alternator for a first predetermined period of time.

19. The method of claim 18, further including a step of decoupling the load from the alternator after the load has been coupled to the alternator for a second predetermined period of time greater than the first.

20. The housing of claim 17, wherein the tester has a terminal for receiving an alternator output signal representative of an alternator characteristic; a controller, disposed on the circuit board, for determining characteristics of the alternator output signal and for generating a first switch operation signal to control the switch to couple the load to the alternator; and the controller determines the characteristics of the alternator output signal based on parameters collected only after the load has been coupled to the alternator for a first predetermined period of time.

21. The housing of claim 20, wherein the controller generates a second switch operation signal to control the switch device to decouple the load from the alternator after the load has been coupled to the alternator for a second predetermined period of time.

22. The housing of claim 21, wherein the second compartment further houses a temperature sensor, disposed at a location near the load and coupled to the controller, for generating a temperature signal indicating the temperature in the second compartment, and a switch for coupling the load to the alternator, the controller generates a control signal for turning on the fan in response to the temperature signal indicating a temperature greater than a predetermined value.

23. A system of claim 13, wherein the terminal receives the alternator output signal through a wireless link.

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24. A system of claim 23, wherein the wireless link is an infrared wireless link.

25. A system of claim 23, wherein the wireless link is a radio wave wireless link.

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